

Draft Paper for Circulation

The Melt-down of the Global Economy: A Keynes- Minsky Episode?*

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The mayhem which started in the de-regulated financial markets of US in the autumn of 2008 engulfed, by early 2009, the real as well as the financial sectors in the global economy at large. The crisis has not only deepened but also has been continuing since then. A development as serious as above makes it imperative that it is still relevant to analyse, once again, the circumstances which can explain this catastrophe.

What can trigger a financial crisis? Some Theoretical Concerns

Tracing back the origin of the on-going crisis and its manifestation in the global economy, we draw attention to the following two facets in the changing institutional structure of de-regulated financial markets :

The *first* concerns the growing uncertainty as can be witnessed in these liberalised financial markets while the *second* relates to financial engineering with innovations in these markets, simultaneously providing cushions against risks while generating sources of liquidity which remain beyond the conventional sources.

* I thank Gary DymSKI and Atulan Guha for useful comments on earlier versions of this paper. I also than Byasdeb Dasgupta

and Soumya Kanti Ghosh for useful suggestions on the earlier draft.

Dealing with the first aspect which concerns the *growing uncertainty in de-regulated markets*, it sets the pace of investments by affecting expectations on the future value as well as the returns on assets. One can here observe the connections between investment and finance, both subject to influence with changes in the state of expectations. Of these we can mention the initial formulation which can be traced back to Keynes's General Theory (1936) linking liquidity preference to asset prices and new investments.¹ With net returns on individual assets (including money) determined by the expected yield in physical terms, carrying costs, the cost of holding liquidity (while holding the asset) and expected changes if any, in the price of the asset; one arrives at the notion of the 'own rate of interest' (measured in terms of itself) which also reflects the marginal efficiency of capital for each such asset. For Keynes if purchase of individual assets (new investments) are to continue, their own rate of interest (marginal efficiency as defined above) has to be higher than those on other assets which include money. While for all assets other than money the own rate of interest is likely to fall with additional investments (especially due to a drop in yield (actual and expected); such declines are absent for money and the own rate reflects the cost of holding

¹ See John Maynard Keynes, The General Theory on Interest Rate, Employment and Money McMillan & Co London 1951 pp225-229

liquidity (the liquidity preference).Thus a point will come when the own rate of interest on money will be equalised to those on other assets, thus indicating an equilibrium situation where the returns on all assets including money are equalised (Money, as held by Keynes, has no intrinsic yield, carrying cost or price appreciation). As for the role of uncertainty in the process, the level of expectations shape the level of confidence relating to yield and movements in asset prices along with the need for liquidity held as a contingency. A rise in the level of confidence will contribute to the expectations on higher yield as well as to a rise in future prices of assets while reducing the need for contingent reserves of liquidity. Thus the Keynesian theory of asset demand (investment) with its links to the liquidity preference theory of the own rate of interest rate on money are subject to notions of uncertainty which in turn is as visualised in subjective terms by agents in the asset market.

Gaps in earlier formulations , often related to the changing institutions, are usually noticed by those working in the same tradition under changed circumstances. The Keynesian version of the impact of uncertainty related expectation on investment was reformulated by Minsky who incorporated the possibilities of using externally sourced finance by incurring debt. This adds further to the impact of uncertainty by introducing what has been characterised by Minsky as the 'borrower risk' and 'lender risk' when funds for are

respectively borrowed by those who supply and demand assets.² With demand for assets the risks of borrowing, which tends to be subjective, rises with increased leveraging while for suppliers of assets costs of borrowing and fees etc add to the current replacement cost of assets. A 'margin of safety' is thus fixed on a subjective basis in the process, with the demand price for new assets lower than the current price for old assets by the 'margin of safety'. The supply price similarly accounts for the respective safety margin by adding the latter to the replacement cost of assets at current market prices. In this process uncertainty and the related state of subjective expectations continue to have a significant role. Purchase of assets (or investment) will thus continue until the demand price is above the supply price. Incidentally, like in the Keynesian formulation, the Tobinesque 'q' also fails to consider the above links of credit finance on investment decisions. ³We will deal later with the implications of above in the context of the current crisis.

Minsky's characterisation of de-regulated financial markets however does not consider the other institutional aspects which concern the non-bank sources of credit and the

² Hyman Minsky, Stabilising an Unstable Economy Yale University Press 1986 pp 183-196

See also for a clear distinction between the Keynesian 'Investment theory of cycles' and the Minskian 'Financial Theory of Investment' and its exposition, L. Randall Wray and Eric Tymoigne, "Macroeconomics Meets Hyman Minsky: The Financial Theory of Investment" The Levy Economics Institute of Bard College Working Paper 543, Septemvber 2008

³ See Wray and Tymoigne, op.cit

involvement of banks themselves in the capital market under universal banking. As it has been pointed out, it is far more important for banks and non-bank financial entities to follow the 'originate and distribute' model where packaging of assets and their sales along with the shifting of risks to counterparties generates more profits than is possible from the simple 'commitment models' which rely on the spread at the loan officer's desk.⁴ As it has been pointed out, the Minsky world today relates to a "bygone era" when credit used to be created only in the loan offices of banks.⁵

The changing pattern of the financial transactions brings us back to the *second* factor which contributed to trigger the global financial crisis. It relates to financial engineering with innovations in de-regulated financial markets. These devices generate myriads of derivative instruments (like futures, swaps, options and so on) , largely to protect asset values in uncertain markets. Innovations as above has also made it possible to invest in and to acquire financial assets far more easily, as compared to what it could be in their absence. For example, with 'futures', a typical derivative product (which arranges for a contract in the stock exchanges for sale and purchase of financial asset at some future date), the deal can work out as convenient (but not

⁴ See Wray and Tymmoigne, op.cit

⁵ Korkut Erturk and Gokeer Ozgur, "What is Minsky all about, anyway?" Real World Economics Review, 50, September 2009

equally profitable) for both buyers and sellers who can insure against uncertainties in the market, and also can dispense with cash transactions at the time of the contract. Thus a buyer contracting a 'long' (buying) position under a 'future' deal needs to deposit only a fraction of the contracted price as 'margin' with the security exchange. In addition, assets held by lenders against loans can be securitised to create the Asset backed securities (ABS) which, when sold and repackaged (mostly by investment banks), create further opportunities for borrowing in the financial markets. In between the insurance companies provide cushions to agents in the financial market by offering the Credit Default Swap (CDS) arrangements.

Financial instruments as above thus opened up vast potentials for expansions in the US financial markets since these transactions were no more constrained by availabilities of bank credit. Nor were these subject to the regulations and the surveillance of Federal Reserve, the Central Bank in US. However, transactions as above and the agents involved therein could remain in business as long as hedging worked to minimise the risk under uncertainty and the risk-adjusted returns offered to those with long or (buy) positions (of assets) were realised by those who held the short (sell) positions on assets. These might not have materialised in a typical 'ponzi' situation, for reasons mentioned above.

We need to mention here that the multiplicity of financial assets as rely on derivatives, while originating from the *same* base in terms of specific real activities (or ‘underlying’), do not expand the base itself. Instead, it amounts to a piling up of claims which are linked to the same set of real assets.⁶

As for the institutional arrangements which generate profits as above, most of the financial assets bought and sold in the primary market as Initial Primary Offers (IPOs) of stocks can later be transacted in the secondary market where these are no longer backed by physical assets. Finance in its upswing, creating myriads of financial claims and liabilities, thus becomes increasingly remote from the real economy, while financial innovations continue to proliferate in the economy, to hedge and insulate financial assets in the presence of uncertainty. *An expansionary financial market thus does not necessarily generate expansions in real terms, while the disproportion between the two may finally end the financial boom itself, as of late has happened in the world economy.*

Aspects mentioned above had been instrumental in transforming the de-regulated markets of finance from a state of relative stability to one of a deep crisis.⁷ In the initial stages, an easy access to credit provides opportunities for hedging by

⁶ As it has been pointed out, “.From a Wall Street point of view capital assets are valuable not because they are productive in a physical sense but because they yield profits”. Minsky,op.cit p204

⁷ See for a lucid analysis of the ‘Ponzi constitution of of today’s financial system, Anastasia Nesvetailova, “Ponzi Finance and Global Liquidity Meltdown: Lessons from Minsky” Working Papers on Transnational Politics, City University of London October 2008

using the existing assets as collaterals. This is hedge finance where the realised and expected income flows are adequate to cover the mandated payments liabilities as interest and repayments. This may turn out as speculation when such income flows fall short of the payments liabilities and attempts are made to 'roll over' past debt, thus arranging for 'balance sheet flows' Finally a state may arise when additional borrowings are made for payments as are due, which is one with 'portfolio flows'. The last one is also a typical case of 'ponzi finance' which ushers in fragility and a potential collapse of the system.⁸

With ponzi finance as above the high returns on borrowings the borrowers agree to pay in order to entice new loans, are not necessarily realised in the market when these funds are invested. To avoid an impending default and an interruption of business on part of borrowers, a need arises not only for new investments but also that the returns on the latter are high enough to compensate the losses, if any, on previous investments. However, with confidence on financial assets held by lenders on way to decline, such dealings come to a grinding halt, leading to big holes in the balance sheets of the concerned parties and heralding the onset of a typical ponzi crisis. The high stakes prevailing in the financial markets under uncertainty often turn out to be

⁸ Minsky, op.cit p 203

disproportionately high as compared to what eventually turns out as their realized returns. Financial transactions as above, are both unsustainable and hazardous as compared to acts of simple hedging (or even speculation) on asset market prices.

Ponzi finance as above is very different from hedge finance which to some extent keeps the business going as long as hedging effectively offsets the losses with possible gains. Even speculative finance, which dwells on more risk than under hedging, can be sustained until it becomes ponzi, with borrowings at high rates no longer generating compensating returns. A situation as the latter, as we point out below, did clearly plague the US financial markets in the fall of 2008.

It may be relevant at this point to highlight the point that ponzi finance is another name for fraudulent behaviour on part of financial agents, as can be seen in the various scams and related acts in recent times.⁹

Turbulence in global financial markets and its origin in the sub-prime loan market crisis of USA

Back in the 1970s, the US economy was subject to an unprecedented wave of credit squeeze with a series of anti-inflationary restraints on credit. Alternate channels of

⁹ See Sunanda sen, "Speculation Scams, and Frauds: Theory and Facts " Economic and Political Weekly Vol XLIV no 12, March 21-27, 2009. See also Anastasia Nesvetailova, op.cit.

credit creation beyond the usual banking orbits were soon discovered by the market by relying on financial innovations like derivatives for the purpose. In the event, a large number of US firms were able to access short-term credit by making use of securitised assets as collaterals. These were treated in the market as commercial papers.¹⁰ The wave of these asset based securitisation (ABS) was followed by new forms of financial intermediation as investment banks were re-packaging in order to market these securities easily to other banks or non- bank financial units. Transactions as above facilitated the churning of these multiple asset-backed securities (ABS), generated on the basis of the original (or the underlying) asset, while propping up multiple counterparties which held those assets. Leveraging played a major role in the creation of these debt financed assets, which continued as long as there was trust and confidence in the uncertain markets on these newly created financial assets. Since these transactions were outside the orbit of conventional banking channels, the Fed had no regulatory power over those. Instead these deals were subject to the jurisdictions of the Securities and Exchange Commission (SEC) of USA which had very little power to regulate . As a consequence there resulted as a consequence in a 50% decline

¹⁰ Randall Wray, " Financial Markets Meltdown: What can we learn from Mynski?" Public Policy Brief No 94 , 2008 The Levy Economics Institute of Bard College. www.levy.org

in the proportion of US financial assets as were held by banks between 1950 and 1990. Credit flows along the non-banking channels were not only unrestrained, but even the rates charged on loans were at much lower spreads as compared to those usual along conventional banking channels. A similar wave spread to financial markets in other parts of the advanced region and also in developing countries which resulted in steep increases in the use of derivatives, with the OTC derivatives alone recording a global transaction of \$33889 bn as gross market value in December 2008 which exceeded the recorded value of global GDP in 2007 at \$32913bn ¹¹.

Transactions in derivatives with ABSs and the Credit Default Swaps got a boost in USA with the property market boom opening up new profit opportunities on mortgages around late 1980s. With the housing market targeting the section of US citizens, so-far excluded from the financial markets by banks on grounds of race and/or income, and with the risk-weighted credit-rationing,¹² it became an opportune moment for banks and other non-bank intermediaries to venture out to these new markets. Possibilities as above to securitize the mortgaged assets opened up new channels of investments, for the broker-mortgage firms, the issuers and insurers of asset based securities (ABS), investment banks who readily purchased and repackaged the ABS, and other financial institutions. Each,

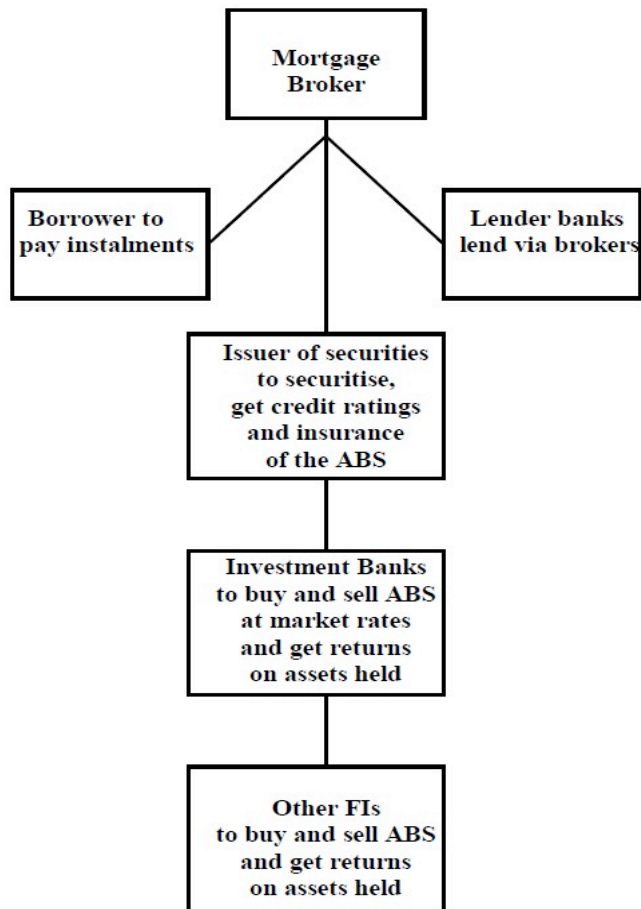
¹¹ BANK OF International Settlement 78th Annual Report 2007-08. Basel 2008

¹² Gary DymSKI, "Financial Risk and Governance in the Neoliberal Area" (mimeo) September 10, 2008

by acquiring an asset, were able to leverage by obtaining credit against the latter.

As the process continued, a large number of American citizens with low incomes were now endowed with a mortgaged property and a liability to pay monthly instalments, usually to the broker-mortgager cum bank which organised the deal. Assets as above were backed by loans which later were discovered as 'sub-prime', with the mortgaged collaterals subject to valuation in a sliding market, loans offered at interest rates which were higher than those ruling in the market, and with little accountability of the borrowers, many of whom were not bankable in terms of the conventional practices followed earlier. The euphoria, fed initially by the rising property prices on the one hand and the eagerness on part of the financial community to profit by using the securitisation route on the other (which temporarily shifted the risk to counterparties), did work as long as it lasted. All this business, led by investment banks, as we have mentioned above, was outside the purview of the Fed, and the SEC hardly stepped in to interfere.

To follow the sequence that led to the recent sub-prime crisis of the US we provide below a rough sketch of the possible links in the system:



The schema of sub-prime loans as above which prompted the upswing in the asset market eventually failed to work in USA. As mentioned earlier, the high property prices of mid-1990s made it possible for banks to advance loans against mortgaged houses at high interest rates to low income borrowers who had very little credentials in the financial market. Repackaging of these to back securities (which exchanged hands to generate further assets and credit opportunities) finally proved to as an Achille's heel by impairing the credentials of the entire financial system in US. Use of

futures and other derivatives (swaps, options etc) expanded the scale of operations by making it possible to bid on positions in the security market with small margins of the final transaction in cash until full payment was due when the contract matured.

A Stylized Model of Real-Financial Sector Imbalances under Uncertainty with the Possibility of an Economic Crisis

Economic crises as above which are generated in an uncertain economic environment often are also matched by severe imbalances between the real and the financial sectors of the economy. The pattern can be captured in terms of the following formulation:

$$Q = f(A, r) \dots\dots\dots (1)$$

Q: total value of assets

A: value of assets comprising of the respective values of real (A_R) and financial (A_F) assets

r: average rate of return comprising of returns on real (r_R) and financial (r_F) assets

Thus $A = A_R + A_F$

$r = r_R \cdot A_R + r_F \cdot A_F$

and $L = L_R (r_R) + L_F (r_F) \dots\dots\dots (2)$

where L , L_R and L_F are the respective liquidity demands, in aggregate, for real assets and for financial assets.

Given the state of financial engineering in a de-regulated financial sector, we assume that liquidity demand always adjusts to its supply, both under boom situations and under slump.

Defining the asset demand in the two sectors,

$$A_R = A_R (L_R) \dots\dots\dots \dots\dots\dots \dots\dots\dots \dots\dots\dots$$

(3)

Where $A_{_R} > 0$ since such demand always responds to liquidity demand relating to the real sector.

However, it is not as simple for the financial sector where uncertainty plays a major role in influencing the rate of return on financial assets which in turn influences liquidity demand for financial assets.

Thus with $r_{F=} r_F (_) \dots\dots\dots \dots\dots\dots \dots\dots\dots$

(4)

With $r_{_F} < 0$ where $_$ is level of uncertainty

And $L_F = L_F (r_F) \dots\dots \dots\dots \dots\dots \dots\dots$ (5)

with $L_{_F} > 0$

we get $A_F = A_F (L_F) \dots\dots\dots \dots\dots\dots \dots\dots\dots$

$\dots\dots\dots$ (6)

where $A_F < 0$

To find out the asset market behaviour for the economy as a whole, we need to look at the changes in the total value of assets Q. The latter, if positive, will let the market continue without a crash. Alternatively the economy crashes with a collapse of the asset market. Let us spell out, using (1) to (6), the total changes in Q as follows:

$$dQ = dAR \left[\frac{\partial Q}{\partial AR} \cdot \frac{\partial AR}{\partial LR} \cdot \frac{\partial LR}{\partial rR} \right] + dA_F \left[\frac{\partial Q}{\partial A_F} \cdot \frac{\partial A_F}{\partial L_F} \cdot \frac{\partial L_F}{\partial r_F} \cdot \frac{\partial r_F}{\partial \mu} \right] + dr_R \cdot \frac{\partial Q}{\partial rR}$$

$$+ dr_F \left[\frac{\partial Q}{\partial r_F} \cdot \frac{\partial r_F}{\partial \mu} \right]$$

Or

$$dQ = \left\{ dAR \left[\frac{\partial Q}{\partial AR} \cdot \frac{\partial AR}{\partial LR} \cdot \frac{\partial LR}{\partial rR} \right] + dr_R \cdot \frac{\partial Q}{\partial rR} \right\} + \left\{ dA_F \left[\frac{\partial Q}{\partial A_F} \cdot \frac{\partial A_F}{\partial L_F} \cdot \frac{\partial L_F}{\partial r_F} \cdot \frac{\partial r_F}{\partial \mu} \right] \right.$$

$$\left. + dr_F \left[\frac{\partial Q}{\partial r_F} \cdot \frac{\partial r_F}{\partial \mu} \right] \right\} \dots \dots \dots (7)$$

From (8) above, the total differential dQ (which indicate the change in value of all assets) will be positive when the sum on the rhs is positive. In order that to happen the items which have a negative value need to be more than compensated by the sum of positive items. We notice a clear distinction between two sets of items, with the real sector related items (within the first item in second bracket) having a positive value always. Separating the two, we get, as negatives the second set,

$$dA_F \left[\frac{\partial Q}{\partial A_f} \cdot \frac{\partial A_f}{\partial L_f} \cdot \frac{\partial L_f}{\partial r_f} \cdot \frac{\partial r_f}{\partial \mu} \right] + dr_f \left[\frac{\partial Q}{\partial r_f} \frac{\partial r_f}{\partial \mu} \right] \dots \dots \dots (8)$$

We can now relate the model to a situation of typical ponzi finance where the financial sector fails to perform with positive returns. With μ , or uncertainty moving up, the returns on financial assets r_f is likely to go down, thus rendering the sum in (9) above negative. The above sum relate to the assets with the financial sector, which indicates the dampening effect of an uncertain market on value of those assets.

However, we hasten to add that as long as the returns on real sector assets continue to be positive, the first sum within brackets in (8) above, if large enough, may more than compensate the negative performance of financial assets under uncertainty (the second sum within brackets in (8)).

Thus dQ will continue to be positive even under uncertainty when its negative impact on value of financial assets will be more than compensated by the positive contribution of real sector to total asset value in the economy. This however will never be achieved when even the real sector assets fail to perform, which is a situation of an overall catastrophe.

However, there remain situations where the financial sector may continue to have positive returns while the real sector fails to perform, a situation visible in the advanced countries during the eighties. In such cases, the positive contribution of the financial sector on asset value has to

continuously compensate for the negative impact of liquidity demand in the real sector on the value of assets therein. Unlike what is assumed in (3) above, here a rise in credit flows (L_r) fails to raise the value of real assets (A_r). But on the whole credit flows (L_r) to the real sector fail to contribute to an improved value of assets (Q) in the economy as a whole. As mentioned above, this is a typical case which prevailed in the advanced economies since the mid-eighties, with the boom in the financial sector failing to revive the stagnating real sector.

As it happened in more recent times, the financial boom in the global economy (and especially in the OECD) could not last in absence of investment with real asset formation. As we have pointed out elsewhere, a financial boom, unless backed by real investments, amounts to financial market activities which are fed by speculation alone.¹³ These transactions in the secondary market entail multiple transfers of titles or claims (financial assets) which are backed by the same stock ,against real assets issued in the primary market. It does not require much to explain that these bubbles in the financial sector often has no counterpart in the real sector, and that these continue as long as expectations are self-fulfilling. The latter proves difficult to fulfil in practice as more and

¹³ Sunanda Sen, Global Finance at Risk: On Real Stagnation and Instability Palgrave-Macmillan 2003 pp8,50-51

more liquidity is pumped in to acquire these financial assets with the expectation of achieving high returns which eventually fail to be realised.

Conclusion

The intensity of the severe economic crisis across the world which at present is continuing, especially in the real sector, makes it urgent to seek remedial steps. The world has witnessed the limits of financialisation as a sustainable path of economic sustenance. One needs to recreate the base for real expansion by re-orienting the pattern of investment incentives, possibly with direct controls on speculation, and with a move away from the high-risk high- return profits in speculation to the ground reality of real expansion in the global economy.
